CLAIMS

1. Method of non-invasive measuring of the temperature change of a target inside a body by transmitting an ultrasonic pulse to the target, subjecting a pulse reflected from the target to frequency analysis, and calculating the temperature change of the target there from, **characterized** in that a frequency spectrum of the reflected pulse is produced and that the calculation of the temperature change is effected on the basis of harmonics appearing in said spectrum.

2. The method of claim 1 wherein the calculation includes calculation of a quotient

$$\frac{Akn - Ak0}{Ak0}$$

wherein Ak0 represents the size of a frequency peak of a harmonic of number k, based on amplitude or intensity as measured at an earlier moment and Akn represents the size of a frequency peak of said harmonic as measured at a later moment n.

3. The method of claim 2 wherein the temperature change is calculated according to the relationship

$$\Delta = k * quotient$$

wherein k is a constant determined empirically.

4. The method of claim 2 wherein the quotient is calculated for different harmonics represented by frequency peaks in said spectrum.

5. The method of claim 2 wherein the size of the harmonic is represented by the amplitude of the frequency peak representing the harmonic in the frequency spectrum.

6. The method of claim 2 wherein the size of the harmonic is represented by the surface defined by the frequency peak representing the harmonic in the frequency spectrum.

7. The method of claim 7 wherein the surface extends from a noise level defined by the frequency spectrum.

8. Apparatus for non-invasive measuring of the temperature change of a target inside a body comprising means for transmitting an ultrasonic pulse to the target, means for receiving a pulse reflected from the target means for frequency analysis of the reflected pulse, and means for calculating the temperature change of the target therefrom, **characterized** by means for producing a frequency spectrum of the reflected pulse, and means for calculation of the temperature change on the basis of harmonics appearing in said spectrum.